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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,160	12/15/2000	Jung-Kwon Heo	1293.1159/MDS	8106

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EXAMINER

LERNER, MARTIN

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/736,160

Applicant(s)

HEO ET AL.

Examiner

Martin Lerner

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 51 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 to 51 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4-6</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On page 2, lines 24 to 28, there is a (b), but no (a).

On page 3, lines 1 to 7, there is a (b), but no (a).

On page 8, line 20, "audio output processor 210" should be –audio output processor 212—. (See Figure 4.)

On page 8, line 21, "RTI signal processor 214" should be –RTI signal processor 210—. (See Figure 4.)

On page 8, line 23, "RTI signal processor 212" should be –RTI signal processor 210—. (See Figure 4.)

On page 9, line 26, "audio signal processor 308" should be –audio signal processor 304—. (See Figure 5.)

Appropriate correction is required.

2. The title of the invention is not descriptive. The title is too long. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

Audio Data Pack Recording and Reproducing Containing Additional Data
Related to Audio Data

Claim Objections

3. Claims 33, 35, and 36 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants are required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

Claim 33 depends upon independent claim 30, but should depend upon independent claim 34.

Claim 35 depends upon independent claim 32, but should depend upon independent claim 34.

Claim 36 depends upon claim 33, but should depend upon claim 35.

The preambles of claims 33 and 35 are directed to a recording and/or reproducing apparatus, as recited by independent claim 34, not to a reproducing apparatus, as recited by independent claim 32. Preambles of dependent claims should correspond to preambles of independent claims.

The preamble of claim 36 is directed to a recording and/or reproducing apparatus, as recited by independent claim 34, but requires antecedent basis for "the synchronization information" as recited by claim 35.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 to 5, 9 to 13, 16 to 20, 30, 31, 39 to 42, 44 to 49, and 51 are rejected under 35 U.S.C. 102(e) as being anticipated by *Ema et al.*

Regarding independent claim 1, *Ema et al.* discloses a recording medium, comprising:

“predetermined recording units in which audio data is recorded, and additional data relating to the audio data is recorded in a predetermined location in corresponding ones of the recording units of the audio data” – each ATS 203 is composed of an ATSI (Audio Title Set Information) 211 (“additional data relating to the audio data”) and a plurality of AOBs Audio Objects 210 (“audio data”) (column 6, lines 18 to 21: Figure 1); each ATSI 211 is located in the first position (“in a predetermined location in corresponding ones of the recording units”) within an ATS 203, before the AOBs 210.

Regarding independent claim 9, *Ema et al.* further discloses an implicit recording method, as the ATSI 211 and AOBs 210 are recorded in a medium.

Regarding independent claim 16, *Ema et al.* discloses a reproducing method, further comprising:

“reading data from the recording medium in units of the recording units” – pickup 80 converts the received light into a detection signal Sp; system buffer receives each ATS 203 (column 8, line 40 to column 9, line 21: Figure 4);

“reproducing the audio data and the additional data recorded in the read recording units, after the additional data to the audio data” – system buffer ATSI 211 for each ATS 203; audio decoder 93 outputs an audio signal from audio buffer 92; RTI data is output from demultiplexer 86 by RTI decoder 96, and provides beat information (column 9, lines 22 to 46: Figure 4).

Regarding independent claims 30 and 51, *Ema et al.* discloses a reproducing apparatus, further comprising:

“a reproducing controller reading an audio object (AOBU) which is one of the recording units” – system controller 100 provides control signals for controlling an audio reproducing process (column 9, lines 22 to 45: Figure 4);

“a demultiplexor demultiplexing an audio pack in which audio data is recorded and an RTI pack in which additional data is recorded, from the read AOBU” – demultiplexer 86 extracts audio packs 230 and RTI packs 231; RTI packs 231 contain RTI data (including text information, tempo information 53 and beat information 54) (column 9, lines 22 to 46: Figures 1 and 4);

“an audio signal processor decoding the audio pack demultiplexed by the demultiplexor to output the audio data stored in the audio pack” – audio decoder 93

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decodes audio information from audio packs 230 (column 9, lines 22 to 46: Figures 1 and 4);

“an RTI signal processor decoding the RTI pack demultiplexed by the demultiplexer to output additional data stored in the RTI pack in relation to the audio data from the audio pack” – RTI decoder 96 decodes RTI data output from demultiplexer 86 to provide beat information (column 9, lines 22 to 46: Figures 1 and 4).

Regarding independent claim 39, *Ema et al.* discloses a recording medium, comprising:

“recording units each comprising at least one audio pack having audio data” – each AOB (Audio Object) contains cells 220 (“recording units”), and each cell has audio packs 230 (column 6, lines 18 to 41: Figure 1);

“a real-time text information (RTI) pack in a predetermined location within the recording unit” – each cell 220 has a plurality of audio packs 230 and a real time information pack 231 (column 6, lines 18 to 41: Figure 1); RTI packs 231 have RTI data composed of text information such as a music name (column 6, lines 51 to 54: Figure 2); an RTI pack 231 is “in a predetermined location within the recording unit” because it is placed somewhere within each cell 220;

“wherein at least some of the RTI packs have additional data related to the audio data within the same recording unit” – RTI data included in RTI pack 231 of a cell 220 has tempo information 53 and beat information 54 for reproducing the music (“additional data related to the audio data within the same recording unit”) (column 6, line 51 to column 7, line 19: Figure 2).

Regarding independent claims 44, 46, and 48 *Ema et al.* discloses a recording medium where audio packs ("the audio data") and RTI data ("additional data") are separately or independently recorded, read, demultiplexed, and reproduced in groups of a plurality of frames within each audio pack (column 6, lines 42 to 50: Figures 1, 2, and 4).

Regarding claims 2, 10, and 17, *Ema et al.* discloses RTI packs 231 are recorded separately from audio packs 230 within cells 220 of AOBs (Audio Objects) 210 (column 6, lines 33 to 41: Figure 1).

Regarding claims 3, 11, and 18, *Ema et al.* discloses RTI data included in RTI pack 231 of a cell 220 has tempo information 53 and beat information 54 for reproducing the music ("so as to be reproduced in relation to the related at least one audio pack") (column 6, line 51 to column 7, line 19: Figure 2); an address of the audio frame 55 designates the position at which the beat of the music is to be reproduced ("by being synchronized to the related audio data") (column 6, line 59 to column 7, line 24: Figure 2).

Regarding claims 4, 5, 12, 13, 19, 20, and 31, *Ema et al.* discloses RTI data included in RTI pack 231 of a cell 220 has text information, tempo information 53, and beat information 54 for reproducing the music; frame designation information 61 ("synchronization information") designates a position at which the beat of the music is located (column 6, line 51 to column 7, line 24: Figure 2).

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Regarding claim 40, it is implicit that at least some of RTI packs 231 have no information recorded in at least some of portions 53, 54, 61, and 62 when there is no beat information (Figure 2).

Regarding claim 41, *Ema et al.* discloses RTI data included in RTI pack 231 of a cell 220 has text information, tempo information 53, and beat information 54 for reproducing the music; frame designation information 61 ("an extra header having synchronization information") designates a position at which the beat of the music is located (column 6, line 51 to column 7, line 24: Figure 2).

Regarding claim 42, *Ema et al.* discloses AOBs 210 (Figure 1).

Regarding claims 45, 47, and 49, *Ema et al.* discloses RTI packs 231 are recorded separately from audio packs 230 within cells 220 of AOBs (Audio Objects) 210 (column 6, lines 33 to 41: Figure 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 to 8, 14, 15, 21 to 23, 24 to 29, 32 to 38, 42, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ema et al.* in view of *Sawabe et al.*

Concerning independent claims 24, 34, and 50, *Ema et al.* discloses a reproducing apparatus for decoding audio and additional data including a controller 100,

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audio signal processor 93, RTI signal processor 96 and demultiplexer 86, but omits analogous corresponding elements in a recording apparatus for coding audio and additional data. However, it is well known that audio coders operate in a corresponding analogous reverse manner with corresponding elements to audio decoders.

Specifically, *Sawabe et al.* teaches an information recording apparatus and information reproducing apparatus, where AOBs 210 are divided into cells 220 and audio packs 230. A controller 75, multiplexer 76, and signal process unit 72 are provided for a recording apparatus. (Column 13, Line 64 to Column 15, Line 67: Figures 1 and 4) It would have been obvious to one having ordinary skill in the art to reverse the operations of reproducing and recording as suggested by *Sawabe et al.* to obtain a recording apparatus for the audio signal processing and RTI signal processing method of *Ema et al.* because it is commonly known that audio coders operate in an analogous corresponding reverse manner to audio decoders.

Concerning claims 6, 21, 27, 36, and 43, *Ema et al.* discloses an RTI pack contains frame designation information 61, providing synchronization of beat information and audio information by addresses (column 6, line 42 to column 7, line 24), but does not expressly say that synchronization is by reproducing start-time information.

However, *Sawabe et al.* teaches packet header 241 contains PTS 241e indicative of a time corresponding to reproduction time of an access unit to be firstly accessed.

(Column 11, Lines 1 to 32) Generally, presentation time stamps are a well known alternative to relative addressing for synchronizing information. It would have been obvious to one having ordinary skill in the art to synchronize the beat information to

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audio information of *Ema et al.* with presentation time stamps indicating a reproducing start-time as suggested by *Sawabe et al.* as an art recognized alternative to synchronization by relative addressing.

Concerning claims 7, 14, 22, 28, 32, and 37, *Ema et al.* discloses ATSlS 211 are placed in the first position within each ATS 203, but does not say that an RTI 230 is placed in the first position within each cell 220. However, the most natural position for placing a header is in a first position of a series of positions. Thus, it would have been obvious to one having ordinary skill in the art to place an RTI 230 in a first position within each cell 220 because RTI information is header information, and the first position is the most natural position to place header information.

Concerning claims 8, 15, 23, 29, 33, and 38, *Ema et al.* discloses ATSlS 211 are placed in the first position within each ATS 203, but does not say that an RTI 230 is placed in the second position within each cell 220. However, the most natural position for placing a header is in a first position of a series of positions, unless there is a plurality of headers, in which case a header might be placed in a second position. Thus, it would have been obvious to one having ordinary skill in the art to place an RTI 230 in a second position within each cell 220 because RTI information is header information, and a second position is a natural position to place header information when there are two headers.

Concerning claims 25, 26, and 35, *Ema et al.* discloses RTI data included in RTI pack 231 of a cell 220 has text information, tempo information 53, and beat information 54 for reproducing the music; frame designation information 61 ("synchronization

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information”) designates a position at which the beat of the music is located (column 6, line 51 to column 7, line 24: Figure 2).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Ishii et al. discloses related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

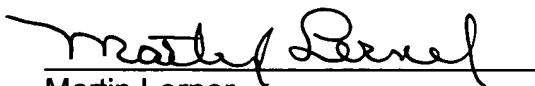
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML
8/23/04

A handwritten signature in black ink, appearing to read "Martin Lerner", written over a horizontal line.

Martin Lerner
Examiner
Group Art Unit 2654